



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,072	03/24/2004	Martin A. Ferman	GP-303459	5368

7590

11/30/2005

KATHRYN A. MARRA
General Motors Corporation
Legal Staff, Mail Code 482-C23-B21
P.O. Box 300
Detroit, MI 48265-3000

EXAMINER

WEISKOPF, MARIE

ART UNIT

PAPER NUMBER

3661

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/808,072

Applicant(s)

FERMAN, MARTIN A.

Examiner

Marie A. Weiskopf

Art Unit

3661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
- Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-28 have been examined.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited.

3. The disclosure is objected to because of the following informalities:
 - Page 8, paragraph 30 – mobile communication unit 110 should be mobile communication unit 100.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 5, 22, 23, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida (US 5,699,056.) Yoshida discloses a traffic information system which includes an on-vehicle apparatus which is capable of reporting information to a center (Abstract) comprising:

- In regard to claim 1, a method of reporting information from a vehicle to a vehicle data collection system comprising:

Art Unit: 3661

- Storing information which defines a geographic region in a vehicle, the geographic region comprising a predetermined array of cells, each cell having a cell position. (See Figure 1A; Column 10, lines 7-14)
- Telegraphic messages which are sent from the vehicle to the repeater to then be processed by the center. The information is judged as to whether it is in the correct cell and if so, it is then reported to the center. This is, therefore, associating a plurality of cell parameters, and the cell parameters include a reporting interval and a recording interval which is every few minutes or whenever manual information is entered. (Column 14, lines 55-65)
- Determining a vehicle position relative to the geographic region, wherein if the vehicle is within the geographic region, the vehicle position is correlated to a vehicle cell. (See Figure 16)
- Recording vehicle data in accordance with the recording interval of the vehicle cell. Yoshida does not specifically state that the vehicle data is recorded in accordance with the recording interval, however, it is inherent that this data must be recorded before it is then able to transmit the data to the center.
- Reporting the vehicle data to a vehicle data collection system in accordance with the reporting interval. (See Figure 15)

- In regard to claim 2, repeating the steps of determining the vehicle position, recording the vehicle data and reporting the vehicle data for a plurality of cycles.
(See Figure 15; Column 17, lines 58-62)
- In regard to claim 5, the vehicle data comprises at least one datum from the group consisting of a vehicle speed, a vehicle heading, the vehicle position, a vehicle elevation and an ambient temperature (Column 10, line 32, line 60-61; Column 28, lines 48-50).
- In regard to claim 22, a system for communicating vehicle data between a vehicle and a vehicle data collection system comprising:
 - A vehicle that is adapted to record and report vehicle data as a function of a vehicle position, the vehicle having a vehicle data storage system to record vehicle data and a vehicle communication system to report the vehicle data that is adapted for wireless communication of the vehicle data. (Column 2, lines 51-60)
 - A vehicle data collection system that is adapted to receive and store vehicle data, the system adapted to receive wireless communication of the vehicle data from the vehicle. (Column 3, lines 38-47)
- In regard to claim 23, the vehicle is adapted to record and report vehicle data as a function of the vehicle position according to a method comprising:
 - Storing information which defines a geographic region in a vehicle, the geographic region comprising a predetermined array of cells, each cell having a cell position. (See Figure 1A; Column 10, lines 7-14)

- Telegraphic messages which are sent from the vehicle to the repeater to then be processed by the center. The information is judged as to whether it is in the correct cell and if so, it is then reported to the center. This is, therefore, associating a plurality of cell parameters, and the cell parameters include a reporting interval and a recording interval which is every few minutes or whenever manual information is entered. (Column 14, lines 55-65)
- Determining a vehicle position relative to the geographic region, wherein if the vehicle is within the geographic region, the vehicle position is correlated to a vehicle cell. (See Figure 16)
- Recording vehicle data in accordance with the recording interval of the vehicle cell.
- Reporting the vehicle data to a vehicle data collection system in accordance with the reporting interval. (See Figure 15)
- Repeating the steps of determining the vehicle position, recording the vehicle data and reporting the vehicle data for a plurality of cycles. (See Figure 15; Column 17, lines 58-62)
- In regard to claim 28, the vehicle data comprises at least one datum from the group consisting of a vehicle speed, a vehicle heading, the vehicle position, a vehicle elevation and an ambient temperature (Column 10, line 32, line 60-61; Column 28, lines 48-50).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3, 6, 7, 11-15, 17, 18, 21, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida (US 5,699,056) in view of Froeberg (US 6,233,517.) Yoshida, as discussed above, discloses a traffic information system. Froeberg discloses a predictive model for an automated vehicle recommendation system.

- In regard to claims 3, 15, 24 and 25, Yoshida fails to disclose updating the information which defines the geographic region. Froeberg, however, teaches the need to update the geographic region information. (Column 9, lines 42-48) It would have been obvious to one having ordinary skill in the art at the time of the invention to continually update the information which defines the geographic region in order to be able to provide the most recent geographic information to the vehicle and also to the center as discussed by Froeberg.
- In regard to claims 6 and 7, Yoshida fails to disclose the cell position comprising a latitudinal position, a longitudinal position and an elevational position. Froeberg discusses having a geographic cell identifier which includes latitude, longitude and elevation. (Column 9, lines 22-30) It would have been obvious to one having ordinary skill in the art at the time of the invention to have each cell

position comprising a latitudinal position, a longitudinal position and an elevational position, as taught by Froeberg, in order to have regions or cells distinctly defined as stated by Yoshida. (Column 10, lines 7-15)

- In regard to claim 11, Yoshida discloses reporting information from a vehicle to a vehicle data collection system comprising:
 - Storing information comprising a geographic region in a vehicle (discussed above))
 - Associating a plurality of cell parameters with each cell (discussed above) including a measurement interval. (Column 11, lines 15-21)
 - Determining a vehicle position comprising a latitude and longitude (Column 10, lines 60-61)
 - Determining if a vehicle is in a region, and if so, recording vehicle data in accordance with the recording priority and the recording interval of the vehicle cell (Column 14, lines 55-65)
 - Reporting the vehicle data to a vehicle data collection system in accordance with the reporting vehicle. (discussed above)

Yoshida does fail to disclose the geographic region and cells having latitudinal and longitudinal origins and elements and widths. Also, Yoshida fails to disclose converting the vehicle position to a vehicle cell in relation to the array of cells. Froeberg, also previously discussed, teaches using latitude and longitude to identify cells since it is a well known way. It would have been obvious to one having ordinary skill in the art at the time of the invention to identify the cells by

their latitude and longitude since it is will known and will not change. It also would have been obvious to convert the vehicle position into a vehicle cell in order to be able to quickly decide where the vehicle is in each cell as discussed by Froeberg. (Column 9, lines 30-56)

- In regard to claim 12, Yoshida discloses repeating the steps of determining the vehicle position, recording the vehicle data and reporting the vehicle data for a plurality of cycles. (See Figure 15; Column 17, lines 58-62) Yoshida also teaches determining whether the vehicle is within an array of cells and if so, reporting and recording the vehicle data. (Column 14, lines 55-65)
- In regard to claim 13, Yoshida fails to disclose converting the vehicle position to a vehicle cell, which is performed by the following relationship:

$$X = (Lon_x - Lon_o / C_{LON}) \text{ and}$$

$$Y = (Lat_y - Lat_o / C_{LAT})$$

It would have been obvious to one having ordinary skill in the art at the time of the invention to use these simple equations to create a vehicle cell in order to easily be able to identify where in the geographic region a vehicle is located.

- In regard to claim 14, Yoshida discusses determining whether the vehicle is within the array of cells comprising a geographic region. (Column 14, lines 55-65) Yoshida, however, does not discuss the method of performed to evaluate whether the vehicle cell is within an array of cells. Given the information provided by Froeberg, it would have been obvious to one having ordinary skill in the art at the time of the invention to use the boundaries of the cells in

comparison with the boundaries of the vehicle cell in order to be able to determine if the vehicle is located within the cell.

- In regard to claim 17, Yoshida discusses the vehicle data comprises at least one datum from the group consisting of a vehicle speed, a vehicle heading, the vehicle position, a vehicle elevation and an ambient temperature (Column 10, line 32, line 60-61; Column 28, lines 48-50).
- In regard to claim 18, Yoshida fails to disclose the cell positions comprising an elevational component, but Froeberg does disclose the cell identifier having an elevational component. (Column 9, lines 22-25)
- In regard to claim 21, Yoshida discusses the geographic region comprising a plurality of geographic regions (Column 10, lines 7-21), however, Yoshida fails to disclose being able to selectively enable or disable the method for each geographic region. It would have been obvious to one having ordinary skill in the art at the time of the invention to just turn off repeaters in certain geographic areas where traffic data is not wanted in order to decide what information should be reported to the center.

8. Claims 16, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Froeberg (US 6,233,517) as applied to claim 12 above, and further in view of Fastenrath (US 6,329,932) and Luciani (US 6,505,114.) Both Yoshida and Froeberg fail to disclose updating at least one cell parameter and the recording priority of a cell is determined by a function of a roadway associated with the cell and the geographic regions comprises a plurality of roadways located therein, each roadway having a

roadway identifier and a recording priority. Fastenrath discloses a method for determining traffic data and traffic information exchange. Fastenrath teaches the need to target certain areas for traffic information such as highway segments, intersections and traffic jam hotspots. (Column 4, lines 1-3) Luciani, who discloses a traffic monitoring system and method, teaches using network based positioning such as Cell Global Identify and Timing Advance. (Column 3, lines 5-10) Luciani discusses comparing the position of the mobile devices with information about road routes and their geographical relationship with the base stations. It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Fastenrath and Luciani in order to create a method of providing traffic data to a center which uses priority data for roads in order to provide more information about roads that are more heavily traveled.

9. Claims 4, 8, 9, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida (US 5,699,056) in view of Fastenrath (US 6,329,932) and further in view of Luciani (US 6,505,114.) Yoshida, as discussed previously, discloses a traffic information system with recording and reporting intervals. Yoshida, however, fails to disclose updating at least one cell parameter and the cell parameters comprising a recording priority wherein the recording priority is determined as a function of a roadway located within the cell. Fastenrath discloses a method for determining traffic data and traffic information exchange. Fastenrath teaches the need to target certain areas for traffic information such as highway segments, intersections and traffic jam hotspots. (Column 4, lines 1-3) Luciani, who discloses a traffic monitoring system and method,

teaches using network based positioning such as Cell Global Identify and Timing Advance. (Column 3, lines 5-10) Luciani discusses comparing the position of the mobile devices with information about road routes and their geographical relationship with the base stations. It would have been obvious to one having ordinary skill in the art at the time of the invention to include a cell parameter comprising a recording priority which is determined as a function of a roadway within a cell as taught by Fastenrath and Luciani in order to provide a system which is able to target specific areas for traffic information to provide the most accurate and reliable information to the center.

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida (US 5,699,056.) Yoshida, as discussed previously, discusses the geographic region comprising a plurality of geographic regions (Column 10, lines 7-21), however, Yoshida fails to disclose being able to selectively enable or disable the method for each geographic region. It would have been obvious to one having ordinary skill in the art at the time of the invention to just turn off repeaters in certain geographic areas where traffic data is not wanted in order to decide what information should be reported to the center.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

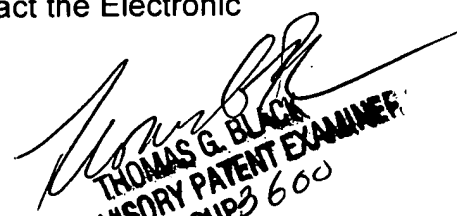
- US 6,092,020 to Fastenrath et al discloses a method and apparatus for obtaining traffic situation data.

- US 2003/0009277 to Fan et al discloses using location data to determine traffic information.
- US 2003/0144790 to MacPhail et al discloses a use of vehicle permissions to control individual operator parameters in a hierarchical traffic control system.
- US 2004/0243298 to Knuuttila et al discloses a method and system for collection traffic data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marie A. Weiskopf whose telephone number is (571) 272-6288. The examiner can normally be reached on Monday-Thursday between 7:00 AM and 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


THOMAS G. BLACK
SUPERVISORY PATENT EXAMINER
GROUP 3600